

**Notice of Allowability**

Application No.

10/051,902

Examiner

Hope A. Robinson

Applicant(s)

ALLEN ET AL.

Art Unit

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/23/06.
2. ☒ The allowed claim(s) is/are 16 and 18-23.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892) \*
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 3/16/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

***EXAMINER'S AMENDMENT***

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization of this Examiner's amendment was given in a telephone interview with Mr. Thomas Kim on August 28, 2006.

3. The claims have been amended as follows:

Claim 16 (Currently Amended) An isolated nucleic acid fragment comprising:

- (a) a nucleotide sequence encoding a polypeptide having sugar transport protein activity, wherein said polypeptide is at least [66%] 90% identical to SEQ ID NO:20; or
- (b) the full-length complement of the nucleotide sequence of (a).

Claim 17 (Cancelled)

Claim 18 (Currently Amended) The isolated nucleic acid fragment of [claim] Claim 16, wherein said polypeptide is at least 95% identical to SEQ ID NO:20.

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Claim 19 (Currently Amended) The isolated nucleic acid fragment of Claim 16 wherein the nucleotide sequence comprises SEQ ID NO:[21] 19.

Claim 20 (Currently Amended) A recombinant DNA construct comprising the isolated nucleic acid fragment of Claim 16 [any one of Claims 16-19] operably linked to at least one regulatory sequence.

Claim 21 (Currently Amended) A vector comprising the isolated nucleic acid fragment of Claim 16 [any one of Claims 16-19].

Claim 23 (Currently Amended) [A] An isolated cell comprising the recombinant DNA construct of Claim 20.

### ***EXAMINER'S COMMENTS***

#### ***Withdrawn Claim Objection***

4. The previous objection to the claims has been withdrawn by virtue of submission of an amendment.

#### ***Withdrawn Claim Rejections - 35 USC § 112***

5. The previous rejections of claims under 35 U.S.C. 112, first paragraphs are withdrawn by virtue of the above amendment.

#### ***Information Disclosure Statement***

6. The Information Disclosure Statement filed on March 16, 2006 has been received and entered. The references cited on the PTO-1449 Form have been considered by the examiner and a copy is attached to the instant Office action.

### ***REASONS FOR ALLOWANCE***

7. The following is an Examiner's statement of reasons for allowance:

The applicant has claimed an isolated nucleic acid fragment comprising: (a) a nucleotide sequence encoding a polypeptide having sugar transport protein activity, wherein said polypeptide is at least 90% identical to SEQ ID NO:20 or (b) the full complement of the nucleotide sequence of (a). Applicant provided Appendix A and B showing a comparison between corn, sugar beet and celery to demonstrate conserved regions. In addition, U.S. Patent Nos: 7,041,476 and 6,383,776 were reviewed for support and consistency of claim language. Upon due reconsideration and the amendments made above, the written description and enablement rejections were withdrawn. Furthermore, the instant specification discloses several species, which are likened to *Arabidopsis thaliana* and *Beta vulgaris* (see paragraph [0008] of the specification), recognized in the art as plant sugar transport proteins. The specification discloses that SEQ ID NO: 20 is 57% identical to the *Beta vulgaris* sugar transport protein (see paragraph [0102]). The proteins of the claimed invention are also discussed with the domains that are conserved (see Appendix A). In view of this analysis, the specification is enabled and has adequately described a representative number of species for the claimed genus. Further, a search of commercial databases did not produce any prior art that suggests or teaches the above claimed invention. Thus, the claimed invention is novel and nonobvious over the prior art.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hope A. Robinson whose telephone number is 571-272-0957. The examiner can normally be reached on Monday-Friday.  
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr, can be reached at (571) 272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hope Robinson, MS

Patent Examiner

**HOPE ROBINSON  
PATENT EXAMINER**

*HR*  
*8/29/06*